Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A radio communication method by which a radio communication ~~apparatuses~~apparatus ~~transmit~~ transmits a ~~beacons~~ beacon ~~using~~ within a beacon ~~periods~~ period so that the ~~beacons~~ beacon does not conflict with ~~one another~~ other beacons transmitted within the beacon period from other radio communication apparatuses, said method comprising:

a step of producing beacon period occupancy information containing:

first moving status information which was included in another beacon received from another radio communication apparatus, ~~and information including~~

an identifier for specifying the another communication apparatus ~~notifying~~ which notified the first moving status information, and

a beacon slot position which indicates a slot position of the another beacon within the beacon period ~~as beacon period occupancy information included in the beacon~~;

a step of ~~adding~~ generating the beacon including the beacon period occupancy information and second moving status information ~~to a beacon,~~ to ~~notifying~~ notify the other radio communication apparatuses about a request for moving of ~~a~~ its own beacon slot position ~~of the other radio communication apparatus~~;

a step of transmitting the generated beacon at ~~a~~ the radio communication apparatus's beacon slot position ~~of the other radio communication apparatus~~;

a ~~detection~~ step ~~in which a radio communication apparatus detects~~ of detecting whether ~~in the beacon period~~ there ~~are~~ is at least one empty beacon ~~slots~~ slot before located before the radio communication apparatus's beacon slot position within the

~~beacon period which is the period for transmitting the beacons of that radio communication apparatus;~~

~~a step of moving the beacon slot to the empty beacon slot and, moving after the specified number of super frames,~~

a step ~~in which the other radio communication apparatus moves its beacon slot to the empty beacon slot an transmits the beacon after the~~ of monitoring a specified number of super frames to confirm that the empty beacon slot is available when an empty beacon slot is detected ~~in the detection step~~, each super frame including a beacon frame and a data fame,

~~at each super frame up to a specified super frame,~~

~~before the end of beacon period from the beacon slot of the other radio communication apparatus,~~

~~the beacon transmitted from the radio communication apparatus programmed to move is not received,~~

~~or transmission of the beacon from other radio transmission apparatus programmed to move is not confirmed from other beacon period occupancy information~~

wherein the empty beacon slot is confirmed to be available when, in each of the specified number of super frames:

i) a specific beacon transmitted from a specific radio communication apparatus programmed to move its beacon slot position is not received later than the radio communication apparatus's beacon slot position within the beacon period and earlier than the end of the beacon period, and

ii) the specific radio transmission apparatus programmed to move its beacon slot position is not detected in other beacon period occupancy information included in the other beacons transmitted from the other radio communication apparatuses to have the specific beacon later in the

the beacon period than the radio communication apparatus; and

a step of moving the beacon slot to the empty beacon slot after the specified number of super frames, and transmitting the beacon in the new beacon slot, when the empty beacon slot is confirmed to be available.

2.-4. (Cancelled).

5. (Original) A radio communication method according to claim 1, characterized in that the moving status information is a counter value of a movable counter that counts the specified number of super frames or a flag.

6.-7. (Cancelled).

8. (Currently Amended) A radio communication apparatus comprising:

a beacon receiving ~~unit~~section that receives a beacon and extracts a frame;

a frame judging ~~unit~~section that judges whether the extracted frame is a beacon frame and records beacon period occupancy information in a recording ~~unit~~section, including the reception slot position of the beacon, an identifier specifying the radio communication apparatus that transmitted the beacon, and moving status information indicating whether the radio communication apparatus that transmitted the beacon is moving its beacon slot position, and records the beacon period occupancy information included in the beacon frame;

a beacon slot position control ~~unit~~ section that detects ~~outputs second moving status information notifying a request for moving of the beacon slot position of the radio communication apparatus to another radio communication apparatus, when~~whether there exists an empty beacon ~~slots before the beacon~~ slot, by checking all the beacon period occupancy information recorded in the recording unit, within the beacon period, which is located before ~~of the~~ the radio communication ~~apparatus~~apparatus's beacon slot position that is a transmission period of the beacon, and when the empty beacon slot is detected, relocates its beacon slot position to the detected empty beacon slot; ~~are detected in a beacon period by checking all the beacon period occupancy information recorded in the recording unit,~~

a frame forming ~~unit~~section that forms a beacon frame including the beacon period occupancy information generated from the received beacon and the second moving status information notifying a request for moving the beacon slot position of the radio communication apparatus to another radio communication apparatus;

a beacon transmission command ~~unit~~section that detects the slot position of the radio communication apparatus and commands the transmission of a beacon frame formed by the frame forming ~~unit~~section,

wherein the beacon slot position control ~~unit~~section outputs beacon transmission timing that moved the beacon slot of the radio communication apparatus to the empty beacon slot to the beacon transmission command ~~unit~~section after the specified number of super frames, when an empty beacon slot is detected before the beacon slot within a beacon period on the basis of all the beacon period occupancy information recorded in the recording ~~unit~~section, and when the beacon transmitted from the other radio communication apparatus programmed to move is not received, or transmission of the beacon from the other radio communication apparatus programmed to move is not confirmed from the beacon period occupancy information before the end of beacon period from the beacon slot of the radio communication apparatus, in each of super frames up to the specified super frame; and

the beacon transmission command ~~unit~~section transmits the beacon frame from the frame forming ~~unit~~section in accordance with the beacon transmission ~~timing..~~timing.

9.-10. (Cancelled).

11. (Currently Amended) A radio communication apparatus according to claim 8, characterized in that, when the beacon slot position control ~~unit~~section detects a change of beacon formation, that is, the arrangement of beacon slot positions of the radio communication apparatuses, by checking the received beacon and the beacon period occupancy information, the beacon position control ~~unit~~section performs detection of an empty beacon slot and movement processing for moving its beacon slot position to the empty beacon slot.

12. (Original) A radio communication apparatus according to claim 8, characterized in that the moving status information is a counter value of a movable counter that counts a specified number of super frames or a flag.

13.-14. (Cancelled).

15. (Original) A radio communication method according to claim 1, characterized in that the moving status information further includes movement destination slot position information indicating the planned movement destination of the beacon slot position of the radio communication apparatus, and

when the radio communication apparatus detects that there is a empty beacon slot other than the beacon slots designated by the movement destination slot position information of the other radio communication apparatuses which transmit their beacons during the time from the beacon slot of the radio communication apparatus in question until the end of the beacon period, the radio communication apparatus selects any one of these empty beacon slots, notifies the other radio communication apparatuses that this empty beacon slot will be the movement destination beacon slot position of the radio communication apparatus in question, and starts count of the specified super frames.

16. (Previously Presented) A radio communication method according to claim 15, characterized in that, when the radio communication apparatus selects the highest empty beacon slot, if the radio communication apparatus is not in the rearmost slot, the radio communication apparatus repeatedly selects the next highest empty slot in the next super frame until the radio communication apparatus is in the lowest slot.

17. (Original) A radio communication method according to claim 15, characterized in that the radio communication apparatus selects an arbitrary beacon slot among the empty beacon slots.

18. (Previously Presented) A radio communication method according to claim 1, characterized by comprising a step in which the radio communication apparatus detects, when the counter value of the radio communication apparatus is the maximum value while the radio communication apparatus is counting the specified number of

number of super frames, other radio communication apparatuses are found to have the maximum counter value from the first moving status information or other radio communication apparatuses are found to have the maximum counter value from beacon period occupancy information, or when the counter value of the radio communication apparatus is the maximum value -1, other radio communication apparatuses from the moving status information, and, when the counter value of the radio communication apparatus is neither the maximum value nor the maximum value - 1, other radio communication apparatuses having the identical counter value from the moving status information, or other radio communication apparatuses having a value of the counter value + 1 from the beacon period occupancy information, and in that

when the radio communication apparatus detects radio communication apparatuses satisfying any one of the above conditions, the radio communication apparatus in the lowest slot position among the radio communication apparatuses continues the count and the other radio communication apparatuses are reset to the specified counter value.

19. (Original) A radio communication method according to claim 18, characterized in that, when the radio communication apparatus receives the beacon period occupancy information of another radio communication apparatus having the maximum value or a counter value identical with the counter value of the radio communication apparatus in question other than 0 during counting, the radio communication apparatus stops the count and resets the counter value of the radio communication apparatus to the maximum value.

20. (Original) A radio communication method according to claim 1, characterized in that the empty beacon slot which is the movement destination of the beacon slot of the radio communication apparatus is the highest empty beacon slot.

21. (Currently Amended) A radio communication apparatus according to claim 8, characterized in that the moving status information further includes movement destination slot position information indicating the planned beacon slot movement destination of the radio communication apparatus, and

when there is an empty beacon slot other than beacon slots designated by the movement destination slot position information of the other radio communication apparatuses that transmit beacons during the time from the beacon slot of the radio communication apparatus in question until the end of the beacon period, the beacon slot position control ~~unit~~section records moving status information, that the empty beacon slot is planed as the beacon slot movement destination, of the radio communication apparatus in the recording ~~unit~~section and sets the specified count in the movable counter, and

the frame forming ~~unit~~section forms a beacon frame including the moving status information of the radio communication apparatus recorded in the recording ~~unit~~section.

22. (Currently Amended) A radio communication apparatus according to claim 21, characterized in that the beacon slot position control ~~unit~~section designates the highest empty slot other than beacon slots to which other radio communication apparatuses which transmit beacons during the time from the beacon slot of the radio communication apparatus in question until the end of the beacon period, plan to move, as the movement destination beacon slot.

23.-28. (Cancelled).

29. (Currently Amended) A radio communication method wherein a first radio communication apparatus transmits a first beacon and receives a plurality of other beacons ~~by using~~ within a beacon period, said method comprising:

a step of receiving a second beacon from a second radio communication apparatus, ~~including:~~said second beacon comprising second beacon transmitter information and second beacon period occupancy information,

wherein the second beacon transmitter information ~~including~~includes ~~a beacon slot position of the second radio communication apparatus that transmitted the second beacon received by the first radio communicatin apparatus,~~ an identifier that specifies the second radio communication apparatus, ~~that transmitted the second beacon received by the first radio communication apparatus~~, and second moving status

information indicating whether or not the second radio communication apparatus plans to ~~moves~~move its beacon slot position; and

wherein the second beacon period occupancy information ~~including~~ includes a beacon slot position ~~of the~~ that is a beacon transmission period of a third beacon transmitted from a third radio communication apparatus ~~that transmitted the third beacon~~ and received by the second radio communication apparatus, an identifier that specifies the third radio communication apparatus, and third moving status information indicating whether or not the third radio communication apparatus plans to ~~moves~~ move its beacon slot position;

a ~~detection~~ step ~~in which~~of detecting whether there exists an empty beacon slot ~~or not~~ within ~~a beacon~~ the beacon period ~~is detected~~which is located before the first radio communication apparatus's ~~a beacon~~beacon slot position that is ~~the~~ a first beacon transmission period of the first ~~radio communication apparatus~~beacon, by using the second beacon transmitter information and the second beacon period occupancy information included in the received second beacon;

a step of producing first beacon transmitter information, when an empty beacon slot is detected in the detection step, ~~by using~~ said first beacon transmitter information including ~~a beacon slot position of the first radio communication apparatus,~~ an identifier that specifies the first radio communication apparatus, and the first moving status information indicating ~~a request for moving at a~~that the first radio communication apparatus plans to move its beacon slot position ~~of the first radio communication apparatus~~;

a step of transmitting ~~a first~~ the first beacon at a first beacon slot position~~of the radio communication apparatus~~, the first beacon including first beacon period occupancy information generated by using the second beacon transmitter information ~~and the first beacon transmitter information~~; and

a step of monitoring a specified number of super frames to confirm that the detected empty beacon slot is available, when the empty beacon slot is detected, each super frame including a beacon frame and a data frame,

wherein the empty beacon slot is confirmed to be available when, in each of the

the specified number of super frames after detection of the empty beacon slot and transmission of the first beacon:

i) a fourth beacon transmitted by a fourth radio communication apparatus programmed to move its beacon slot position is not received later than the first beacon slot position within the beacon period and earlier than the end of the beacon period, and

ii) transmission of the fourth beacon from the fourth radio communication apparatus programmed to move its beacon slot position is not detected in a fifth beacon transmitted by a fifth radio communication apparatus to have the fourth beacon later in the beacon period than the first radio communication apparatus beacon; and

a step of ~~changing~~ relocating the beacon slot position of the first radio communication apparatus to the detected empty beacon slot after the specified number of super frames when the empty beacon slot is confirmed to be available~~after detection of an empty beacon slot in the detection step and after transmission of the first beacon, and before the end of beacon period from the beacon slot of the first radio communication apparatus, in each of super frames up to a specified super frame, when no reception of a fourth beacon transmitted by the fourth radio communication apparatus having a moving program or transmission of the fourth beacon from the fourth radio communication apparatus having the moving program is not confirmed from the fifth beacon period occupancy information included in the fifth beacon received from the fifth radio communication apparatus having no moving program~~.

30. (Currently Amended) A first radio communication apparatus, comprising:

~~A radio~~a radio processing ~~unit~~section that receives a second beacon from a second radio communication apparatus, including:

second beacon transmitter information including a beacon slot position of the second radio communication apparatus that transmitted a second beacon received by a radio communication apparatus, an identifier for identifying the second radio communication apparatus, and second moving status information indicating whether or

or not the second radio communication apparatus moves its beacon slot position; and

second beacon period occupancy information including a beacon slot position of the third radio communication apparatus that transmitted a third beacon received by the second radio communication apparatus, an identifier for identifying the third radio communication apparatus, and third moving status information indicating whether or not the third radio communication apparatus moves its beacon slot position;

a beacon slot position control ~~unit~~section that ~~generates first transmitter information by using a~~ detects whether there exists an empty beacon slot, within the beacon period, ~~which is located before the position of the radio communication apparatus, an identifier for identifying the radio communication apparatus, and first moving status information indicating a request for moving of a beacon slot position of~~ the first radio communication ~~apparatus~~apparatus's beacon slot position that is a transmission period of the first beacon, and when ~~an~~the empty beacon slot is detected, relocates its beacon slot position to the detected empty beacon slot ~~within a beacon period before a beacon slot which is in the first beacon transmission period of the radio communication apparatus, by using the second beacon transmitter information and the second beacon period occupancy information~~;

a frame forming ~~unit~~section ~~for forming~~that generates the ~~a first~~ first beacon including ~~first~~the first beacon period occupancy information generated by using the second beacon transmitter information, and ~~the first~~ a first transmitter information generated based on a detection result at the beacon slot position control section, and forms a beacon frame, wherein the first transmitter information includes an identifier that specifies the first radio communication apparatus, and first moving status information indicating whether or not the first radio communication apparatus plans to move its beacon slot position; and

a beacon transmission command ~~unit~~section that detects the first ~~beacon slot position of the~~ radio communication apparatus's~~apparatus~~ beacon slot position in the beacon period and indicates to the frame forming section a timing for transmitting the generated first beacon~~and commands the radio processing unit to transmit the first beacon formed by the frame forming unit~~,

wherein, when the empty beacon slot is detected by the ~~position control unit outputs beacon transmission timing to the beacon transmission command unit with the~~ beacon slot position control section, ~~of the radio communication apparatus changed to the empty beacon slot after the specified number of super frames,~~ the beacon slot position control section further monitors a specified number of super frames to confirm that the detected empty beacon slot is available, each super frame including the beacon frame and a data frame,

wherein the empty beacon slot is confirmed to be available when, in each of the specified number of super frames after detection of the empty beacon slot and transmission of the first beacon:

i) a fourth beacon transmitted by a fourth radio communication apparatus programmed to move its beacon slot position is not received later than the first beacon slot within the beacon period and earlier than the end of the beacon period, and

ii) transmission of the fourth beacon from the fourth radio communication apparatus programmed to move its beacon slot position is not detected in a fifth beacon occupancy information included in a fifth beacon transmitted by a fifth radio communication apparatus to have the fourth beacon later in the beacon period than the first radio communication apparatus;

wherein the first radio communication apparatus relocates its beacon slot position to the detected empty beacon slot, and notifies the beacon transmission command section of an update of the timing for the transmitting the first beacon; and

wherein a beacon transmission command section gives the frame forming section an updated timing for transmitting the generated first beacon, and the frame forming section outputs the generated first beacon to the radio processing section according to the updated timing ~~in each of super frames up to a specified super frame, after detection of an empty beacon slot before a beacon slot of the radio communication apparatus, within a beacon period, and transmission of the first beacon on the basis of the first beacon period occupancy information, before the end of a beacon period from the beacon slot of the radio communication apparatus,~~

~~when no reception of a fourth beacon transmitted from the fourth radio communication apparatus having a moving program, or transmission of the fourth beacon from the fourth radio communication apparatus having the moving program is not confirmed from the beacon period occupancy information included in the fifth beacon received from the fifth radio communication apparatus having no moving program, and~~

~~the beacon transmission command unit outputs the first beacon from the frame forming unit to the radio processing unit in accordance with the beacon transmission timing after the change.~~

31. (New) A radio communication method wherein a first radio communication apparatus transmits a first beacon and receives a plurality of other beacons within a beacon period, said method comprising:

a step of detecting whether there exists an empty beacon slot within the beacon period, which is located before the first radio communication apparatus's beacon slot position that is a transmission period of the first beacon, by using a second beacon including a second beacon transmitter information and a second beacon period occupancy information, said second beacon is received from a second radio communication apparatus;

a step of producing first beacon transmitter information, when the empty beacon slot is detected in the detection step, said first beacon transmitter information including an identifier that specifies the first radio communication apparatus, and first moving status information indicating that the first radio communication apparatus plans to move its beacon slot position;

a step of transmitting the first beacon at a first beacon slot position, the first beacon including the first beacon transmitter information and first beacon occupancy information generated by using the second beacon transmitter information; and

a step of monitoring a specified number of super frames to confirm that the detected empty beacon slot is available, when the empty beacon slot is detected, each super frame including a beacon frame and a data frame,

wherein the empty beacon slot is confirmed to be available when, in each of the specified number of super frames after detection of the empty beacon slot and transmission of the first beacon:

i) a fourth beacon transmitted by a fourth radio communication apparatus programmed to move its beacon slot position is not received later than the first beacon slot position within the beacon period and earlier than the end of the beacon period, and

ii) transmission of the fourth beacon from the fourth radio communication apparatus programmed to move its beacon slot position is not detected in a fifth beacon transmitted by a fifth radio communication apparatus to have the fourth beacon later in the beacon period then the first radio communication apparatus beacon; and

a step of relocating the beacon slot position of the first radio communication apparatus to the detected empty beacon slot after the specified number of super frames when the empty beacon slot is confirmed to be available.

32. (New) A radio communication method according to claim 31,

wherein the second beacon transmitter information includes:

i) an identifier that specifies the second radio communication apparatus, and

ii) second moving status information indicating whether or not the second radio communication apparatus plans to move its beacon slot position, and

wherein the second beacon period occupancy information includes:

i) a beacon slot position that is a beacon transmission period of a third beacon transmitted from a third radio communication and received by the second radio communication apparatus,

ii) an identifier that specifies the third radio communication apparatus, and

iii) a third moving status information indicating whether or not the third radio communication apparatus plans to move its beacon slot position.

33. (New) A first radio communication apparatus which transmits a first beacon and receives a plurality of other beacons within a beacon period, said radio communication apparatus comprising:

a radio processing section that receives a second beacon from a second radio communication apparatus, said second beacon including a second beacon transmitter information and a second beacon period occupancy information;

a beacon slot position control section that detects whether there exists an empty beacon slot, within the beacon period, which is located before the first radio communication apparatus's beacon slot position that is a transmission period of the first beacon, and when the empty beacon slot is detected, relocates its beacon slot position to the detected empty beacon slot;

a frame forming section that generates the first beacon including a first beacon period occupancy information generated by using the second beacon transmitter information, and a first transmitter information generated based on a detection result at the beacon slot position control section, and forms a beacon frame, wherein the first transmitter information includes an identifier that specifies the first radio communication apparatus, and first moving status information indicating whether or not the first radio communication apparatus plans to move its beacon slot position; and

a beacon transmission command section that detects the first radio communication apparatus's beacon slot position in the beacon period and indicates to the frame forming section a timing for transmitting the generated first beacon;

wherein, when the empty beacon slot is detected by the beacon slot position control section, the beacon slot position control section further monitors a specified

number of super frames to confirm that the detected empty beacon slot is available, each super frame including the beacon frame and a data frame,

wherein the empty beacon slot is confirmed to be available when, in each of the specified number of super frames after detection of the empty beacon slot and transmission of the first beacon:

i) a fourth beacon transmitted by a fourth radio communication apparatus programmed to move its beacon slot position is not received later than the first beacon slot within the beacon period and earlier than the end of the beacon period, and

ii) transmission of the fourth beacon from the fourth radio communication apparatus programmed to move its beacon slot position is not detected in a fifth beacon occupancy information included in a fifth beacon transmitted by a fifth radio communication apparatus to have the fourth beacon later in the beacon period than the first radio communication apparatus;

wherein the first radio communication apparatus relocates its beacon slot position to the detected empty beacon slot, and notifies the beacon transmission command section of an update of the timing for the transmitting the first beacon; and

wherein a beacon transmission command section gives the frame forming section an updated timing for transmitting the generated first beacon, and the frame forming section outputs the generated first beacon to the radio processing section according to the updated timing.

34. (New) A radio communication apparatus according to claim 33,

wherein the second beacon transmitter information includes:

i) an identifier that specifies the second radio communication apparatus, and

ii) second moving status information indicating whether or not the second radio communication apparatus plans to move its beacon slot position and

wherein the second beacon period occupancy information includes:

i) a beacon slot position that is a beacon transmission period of a third beacon transmitted from a third radio communication apparatus and received by the second radio communication apparatus,

ii) an identifier that specifies the third radio communication apparatus, and

iii) a third moving status information indicating whether or not the third radio communication apparatus plans to move its beacon slot position.